

with the sawfly pupa and salamander eggs. Are males of this species not carnivorous? Do the imperatives of egg production have any influence on milliped feeding habits or does the apparent sex bias simply reflect some obscure parameter like collection bias?

Invertebrate predators of *Ambystoma opacum* eggs have not been previously documented. Thus, this paper presents the first observations of putative predation on the eggs of this species by parajulid millipeds. It also describes one of the possible predicted costs of the terrestrial-breeding strategy employed by this salamander (Jackson et al., 1989).

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Literature Cited

- Bishop, S.C. 1941. The salamanders of New York. New York State Museum Bulletin 324:1-365.
- Hoffman, R.L., & J.A. Payne. 1969. Diplopods as carnivores. *Ecology* 50:1096-1098.
- Jackson, M.E., D.E. Scott, & R.A. Estes. 1989. Determinants of nest success in the marbled salamander (*Ambystoma opacum*). *Canadian Journal of Zoology* 67:2277-2281.
- Morris, C.L., W.J. Schoene, & M.L. Bobb. 1963. A pine sawfly, *Neodiprion pratti pratti* (Dyar) in Virginia. *Bulletin of the Virginia Division of Forestry*. 42 pp.
- Schubart, O. 1947. Os Diplopoda da viagem do naturalista Antenor Leitao de Carvalho aos Rios Araguaia e Amazonas em 1939 e 1940. *Boletim Museu Nacional (Zoologia)* 82:1-74, 1-75 figs.
- Surface, H.A. 1913. First report on the economic features of the amphibians of Pennsylvania. *Pennsylvania Department of Agriculture, Zoological Bulletin* 3:68-152.
- Joseph C. Mitchell
Department of Biology and School of Continuing Studies
- University of Richmond
Richmond, Virginia 23173
- Kurt A. Buhlmann
Savannah River Ecology Laboratory
Drawer E
Aiken, South Carolina 29803
- and
- Richard L. Hoffman
Virginia Museum of Natural History
Martinsville, Virginia 24112
-
- Banisteria*, Number 8, 1996
© 1996 by the Virginia Natural History Society
- THE WATER STRIDER *LIMNOPORUS DISSORTIS* (DRAKE & HARRIS) (GERRIDAE) ADDED TO THE HETEROPTERON FAUNA OF VIRGINIA — On 6 June 1996, Steven M. Roble (Virginia Division of Natural Heritage) collected a variety of aquatic insects at the Buck Run beaver ponds, at the Locust Springs Recreation Area in extreme northwestern Highland County, Virginia. Among the more interesting species obtained by Dr. Roble are two specimens of a water strider (*Limnoporus dissortis* [Drake & Harris, 1930]) which although widespread in northeastern North America has apparently not been unequivocally documented to occur south of Maryland and West Virginia. The species was not encountered during intensive collecting for aquatic bugs by Marvin L. Bobb (1947-1950) although he took several thousand gerrids of other species in Virginia. In his 1974 treatment of the aquatic and semiaquatic taxa, Dr. Bobb did not list *dissortis* even as a possible resident of the state, as he did for species in various other families.
- In Bobb's key to the Virginia species of *Gerris*, *dissortis* will identify as *Gerris canaliculatus*, from which, and all other local gerrids, *dissortis* is at once distinguished by the orange-brown dorsum, with two prominent square black spots on anterior third of the pronotum and a narrow pale middorsal line evident at both ends of the thoracic region.
- In earlier work, up to the time of Blatchley's 1926 manual of eastern Heteroptera, the species was considered to be the North American component of the widespread Palearctic species *Gerris rufoscutellatus* Latreille. In 1930, having completed a careful review of the situation, Drake & Harris proposed the new name *Gerris dissortis* for the Nearctic population which they could distinguish from *rufoscutellatus* by subtle differences in structure. More recently, the

taxonomy of gerrids was treated by Andersen (1975), who sequestered both *canaliculatus*, *rufoscutellatus*, *dissortis*, and several other forms into a separate genus *Limnopus*, a taxon previously ranked as a subgenus of *Gerris* from which it was distinguished by Andersen on subtle differences in antennomere lengths and male genitalia. This upgrading of *Limnopus* has been accepted by C. L. Smith, compiler of the Gerridae entry in the Henry & Froeschner Catalog of North American Heteroptera (1988). In that reference, *dissortis* is recorded from Alberta to Newfoundland and south to Missouri, West Virginia, and Delaware.

An old record for North Carolina - without further data (Torre-Bueno, 1913) was repeated without comment by Brimley (1938), but requires confirmation. The fact that Dr. Bobb collected hundreds of gerrids in western Virginia without finding *dissortis* suggests that it may be at or near the southernmost limits of its range at Locust Springs.

Existing published descriptions of the species do not give full justice to the elegant coloration. The entire dorsal surface, including the full-length hemelytra, is a light orange-brown, except for the head and two large square black pronotal spots, and a sooty black dorsolateral band on each side. Seen in ventral aspect, the entire underside appears to be the usual grayish-white of most gerrids, but when a specimen is illuminated from the proper angle the pubescence of the entire lower side of the thorax reflects a vivid metallic golden color. The descriptor "beautiful" is not inappropriate for this elegant insect.

The Virginia Museum of Natural History is again in the debt of Dr. Roble for his donation of this material (and thousands of other insects taken during inventory activities).

References

Andersen, N. M. 1975. The *Limnogonus* and *Neogerris* of the

Old World with character analysis and a reclassification of the Gerrinae (Hemiptera: Gerridae). *Entomologica Scandinavica* (Supplementum) 7: 1-96.

Blatchley, W. S., 1926. *Heteroptera or True Bugs of Eastern North America*. Nature Publishing Company, Indianapolis. 1116 pages.

Bobb, M. L., 1974. The aquatic and semi-aquatic Hemiptera of Virginia. The Insects of Virginia: No. 7. Research Division Bulletin, Virginia Polytechnic Institute & State University, Blacksburg. 87: 1-195.

Brimley, C. S. 1938. The Insects of North Carolina, being a list of the insects of North Carolina and their near relatives. North Carolina Department of Agriculture, Division of Entomology. Raleigh. 560 pages.

Drake, C. J., & H. M. Harris, 1930. A wrongly identified American water-strider. *Bulletin of the Brooklyn Entomological Society* 25: 145-146.

Smith, C. L., 1988. Family Gerridae. Pp. 140-151, in: T. J. Henry & R. C. Froeschner (eds.), *Catalog of the Heteroptera, or True Bugs, of Canada and the Continental United States*. E. J. Brill, Leiden & New York. 958 pages.

Torre-Bueno, J. R. de la, 1913. Remarks on the distribution of Heteroptera. *Canadian Entomologist* 45: 107-111.

Richard L. Hoffman
Virginia Museum of Natural History
Martinsville, Virginia 24112

Miscellanea

Book Reviews

Reptiles of North Carolina, by William M. Palmer and Alvin L. Braswell. The University of North Carolina Press, Chapel Hill & London. xiii + 412 pages. \$49.95.

Some kind of evolution usually occurs in material and cultural human fabrications as well as in living organisms, and

I have been interested in the course of such things as reference books, among others. During the past half-century textbooks used in introductory college biology courses have evolved from pretty unpretentious presentations of facts, a few hundred pages in length, to near quarto-sized tomes of a thousand or more pages replete with striking graphics of every kind. The same thing is true for the genre of books in herpetology that treat the fauna of a single state (or country).